



1. Title:	Mitigations schemes for the tin-doped droplet target
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### 3. Abstract body:

Laser-produced plasmas of tin-doped droplet targets offer a unique approach for high CE EUV-sources and to reduce the amount of debris by using the mass-limited target concept. The idea behind mass-limited targets is to load the target just with enough tin to provide bright UTA emission.

However, energetic ions emitted from the plasma still can cause damage of multi-layer mirrors which results in reflectivity degradation. The mirror reflectivity degrades when the surface is sputtered by target material or layers of the multi-layer are lost by erosion. Therefore having an effective debris mitigation system will be a prerequisite to guarantee the required lifetime of the collector mirror.

Several methods for debris reduction (foil trap, cavity confinement, repeller fields and magnetic fields) and cleaning cycles of EUV optics were suggested. We propose that only a combination of several schemes together can reach the lifetime requirements.

We have developed a high transmission magnetic field-enhanced foil trap. We present the latest quantitative evaluations on the mitigation schemes particularly on the radial dependencies. The measurements of ion-energies with respect to the incident laser by ion spectroscopy will be presented.